REMARKS

Applicants thank the Examiner for the courtesies extended to the undersigned in a personal interview conducted on March 14, 2007. In the Office Action mailed January 30, 2007, the Examiner rejected claims 1-12 and 21-28. By way of the foregoing amendments and the markings to show changes, Applicants have amended claims 1, 4, 7, 10 and 11 and canceled claims 2 and 6. The foregoing amendments are taken in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicant would otherwise be entitled in view of the prior art.

I. Claim Objections

The Office Action objected to claims 2 and 6 suggesting that those claims fail to further limit the subject matter of claim 1. Applicants have canceled claims 2 and 6 making the objection to those claims moot.

II. Claim Rejections under 35 USC 112

The Office Action objected to claim 1 suggesting that the phrase "the section mold" lacks antecedent basis. That phrase has been amended to read "a section mold" to overcome the rejection.

III. Claim Rejections under 35 USC 102

The Office Action rejected claims 23 and 25 under 35 USC 102 as being anticipated by Tilton et al. (U.S. Patent 6,572,723). Applicants contend, however, that Tilton et al. does not disclose, explicitly or inherently, each and every element of claims 23 and 25 and, therefore, Tilton et al. does not anticipate claims 23 and 25.

The Office Action asserts that Tilton et al. discloses "providing a primary extrusion in a solid state" and refers to Column 2, lines 13-14 of Tilton et al. for support. Applicants find no mention of the provision of a primary extrusion in Tilton et al. at column 2, lines

13-14 nor anywhere else in Tilton et al. As such, Applicants contend that Tilton et al. does not anticipate claims 23 and 25 of the present application.

Moreover, claim 23 specifically recites "compressing the molten zone, after formation thereof, between a pressing unit and a die cavity". However, any compressing of any molten material formed in Tilton et al. occurs simultaneously with heating of that material. Thus, Tilton et al. does not disclose formation of a molten zone followed by compressing of that molten zone. As such, Applicants contend that Tilton et al. does not anticipate claims 23 and 25 of the present application.

For at least these reasons, Applicants respectfully request that the rejections of claims 23 and 25 as being anticipated by Tilton et al. be withdrawn.

IV. Claim Rejections under 35 USC 103

The Office Action rejected claims 1-6, 9-12 and 21-22 under 35 USC 103 as being obvious and unpatentable over Gray (US Patent 6,599,612) in view of Rasmussen (US 4,377,544). Applicants traverse these rejections on the grounds that the Office Action fails to establish prima facie obviousness of these claims.

Claim 1

The Office Action admits, at page 4 thereof, that "Gray does particularly show an extruded film or using a pressing unit in conjunction with a die cavity." However, the Office Action asserts that Rasmussen discloses "compressing the resulting extrusion between a pressing unit and a die cavity until the melted portion takes the shape of the pressing unit and die cavity". Applicants contend that this assertion is incorrect. In particular, Applicants contend that Rasmussen does not use a pressing unit to compress a melted portion to take the shape of a die cavity. To illustrate this contention, Applicants have attached Exhibit A showing Figures 6 and 7 of Rasmussen. With reference to Exhibit A and according to the process of Rasmussen, the film 25 is fed to rollers 31, 35 and 36. Roller 31 provides a heating function in conjunction with its ribs 32 and slots 33

for forming molten areas in the film. The film, however, consistently maintains its shape as a thin film as it is advanced through the rollers. The only shape change to the molten portion comes at the area A as labeled in Exhibit A when the film is pulled away from the ribs 32 to form the molten portion into strands (labeled as B in the Exhibit A), which are cut by tool 40. These details of Rasmussen become apparent from reading Column 5, lines 32-55 in conjunction with the rest of the disclosure of Rasmussen. Rasmussen does not include a pressing unit that compresses a polymeric material such that it takes the shape of a die cavity. As such, the Office Action has failed to establish prima facie obviousness of claim 1 of the present application.

In addition to the above, Applicants contend that the combination of Rasmussen with Gray as proposed by the Office Action is impractical, is not based upon common sense and would likely destroy the utility of the process of Gray. In particular, the Office Action suggests that it would have been obvious to "use Rasmussen's pressing unit/die cavity combination during Gray's shaping process in order to insure equal pressure to all parts of the molten resin." This combination is impractical, not based upon common sense and would destroy the utility of Gray for multiple reasons. First, the device of Gray relies upon air pressure for any shaping of its polymeric material and that air pressure has an inherent pressure equality that would be lost in that particular process through the use of the "pressing unit/die"[1] of Rasmussen. In particular, such a Unit/Die would be required to apply any pressure through mechanical means that would produce less equality of pressure relative to the air pressure already employed in Gray. Moreover, the molten polymeric material of Gray would be much more likely to stick to and/or be undesirably deformed by any pressing unit employed, particularly since the "pressing unit" would need to be pulled from the "die" prior to solidification of the molten polymeric material due to the continuously moving rollers of Gray and Rasmussen. Such sticking would destroy the proper formation of the "cusps" of Gray. Further, Gray forms its "cusps" using air

[1] Applicants use the term "pressing unit/die" as a matter of convenience to be consistent with the Office Action. However, Applicants, as argued above are of the opinion that neither Rasmussen nor Gray includes a pressing unit as described in the claims of the present application.

pressure that pushes molten material into openings of a roller while Rasmussen form its "filaments or naps" by pulling its molten portions away from a roller. Thus, common sense suggests that these references are inconsistent with each other not properly combinable. For these reasons, Applicants contend that Rasmussen is improperly combined with Gray.

Claim 4

The Office Action asserts that Rasmussen shows the steps of claim 4 in an in-line process as recited in that claim. The Office Action refers to column 4, lines 41-43, 46-59 and Figures 2 and 6 of Rasmussen for this assertion. However, "in-line" processes in manufacturing include at least one first process that is processing a product (e.g., a material) and that product is being fed to and processed by a second process while both the first process and second process are operating at the same time and such operation is without developing significant inventory of the product after undergoing the first process and where. Rasmussen, at best, suggests the possibility of providing its film by extrusion, however, Rasmussen does not disclose such extrusion being "in-line" with any post-extrusion process.

Claim 7

The Office Action rejected claim 7 as being obvious over the combination of Gray and Rasmussen in further view of Tilton. In making this rejection, the Office Action asserts that element 28 of Tilton is both a portion of the "split die" and is "the upper mandrel" recited in claim 7 of the present application. Thus, the element labeled 28 in Tilton has been identified as both the "die" and "upper mandrel" of claim 7. However, the "split die" and "upper mandrel" are called out as separate elements of claim 7 and the interpretation by the Office Action of these elements as being the same is "unreasonable" particularly in light of common sense and the fact that the "split die" and "upper mandrel" are separate and different element in the present application. Further, this interpretation is particularly unreasonable since the term "split die" is used in the present application

and understood in the industry to mean a die that has to parts that cooperatively form a cavity of the die.

The Office Action also fails to address limitations of claim 7. In particular, the Office Action does not even assert that Tilton discloses a cavity having a shape corresponding to the "outer shape of the barbed projection" or "the upper mandrel having a shape corresponding to the inner shape of the barbed projection". This lack of assertion is particularly poignant since the element 28 of Tilton does not make an "inner shape" and because the "split die" or the separation thereof, at least in claim 7, is an element that helps enable the formation of the barbed projection. Applicants contend that the Office Action fails to establish a prima facie case of obviousness against claims 7.

Moreover, forming a barbed projection like that in claim 7 using a stamping process like the one in Tilton would likely destroy the process of Gray for the same reason that use of a "pressing unit/die cavity" would destroy the process of Gray as discussed with respect to claim 1. Moreover, the processes of Gray and Rasmussen are likely not amenable to use of a split die that is used to release the polymeric component.

Applicants also contend that Tilton is not properly combinable with Gray and Rasmussen. Tilton is a process for forming insulation material for vehicles or appliances while Gray and Rasmussen are processes of forming materials for packaging or upholstery. Moreover, Tilton is direct toward a stamping type process while Gray and Rasmussen are directed to roller processes. The skilled artisan would be very unlikely to look to Tilton for direction in modifying Gray and Rasmussen.

Claim 8

The Office Action suggests using a clamping process as disclosed in Weaver et al. (US 4,379,802) at Column 11, lines 36-39. Applicants find no clamping process in Weaver et al. at this location or any other. Further, Applicants suggest that clamping of

the films of Gray or Rasmussen could stop the roller processes that Gray and Rasmussen disclose.

Claim 11

The Office Action, in rejecting claim 11, never asserts that Gray "provides a section mold unit having a plurality of die cavities and pressing units ... wherein at least one die cavity and pressing unit define a section mold feature shape different from at least one other die cavity and pressing unit." Rather, it suggests that Gray includes "compression areas". As discussed above, neither Gray nor Rasmussen include pressing units as recited in the claims of the present application. Based on this, Applicants contend that the Office Action has failed to establish a prima facie case of obviousness of claim 11.

Claim 22

In rejecting claim 22, the Office Action asserts that Gray shows the advancement from a zone heating unit to a compression area. However, the heating and any compression, if and when provided by Gray, are actually provided at the same time. As such, the film of Gray is not advanced from a zone heating unit where it is then aligned with a pressing unit and die cavity as recited in claim 22.

Claim 24

The Office Action, in rejecting claim 24, suggests that Franz (US Patent 4,539,252) discloses a zone heating unit that is separate from the section mold unit. The Office Action suggests that Figure 2b and elements 12, 13, 14 of Franz support this suggestion. However, the heating elements 13 of Franz are shown schematically as resistive heaters rather than as being separate from the mold halves labeled 12 and 14 and resistive heaters are typically integrated directly with whatever elements those heaters are designed to heat. Moreover, at column 9, lines 20-23 of Franz, the heating means 13 is disclosed as heating the mold halves 12 and 14. Thus, the resistive heaters 13 of Franz

are most likely integrated with the mold halves 12, 14, but, at the very least, are not discloses as being separate from the mold halves 12, 14. For this reason, the Office Action has failed to establish a prima facie case of obviousness for claim 24 of the present application.

Claim 28

The Office Action rejected claim 28 as being obvious in view of Tilton, Franz and Weaver. Applicants traverse the rejection of claim 28 based upon the same lack of disclosure discussed above with relation to Tilton, Franz and Weaver.

For all of the above reasons, Applicants request that the rejections of each of the claims of the present application under 35 USC 102 or 103 be withdrawn.

Advantages

In addition to the above, Applicants assert that the invention encompassed by the claims of the present application is much more than a simple combination of old elements. Rather, the invention involves a unique combination of process steps that provide distinct advantages and is a significant change from conventional processes.

In particular, the process of the present application makes a useful part through extrusion of a polymeric material to form a primary extrusion followed by localized heating of the extrusion by a heating unit to form a molten portion and then compressing of that molten portion to form a solid state section feature. This process separates the shaping of the overall part from the shaping of the solid state section feature which makes the process significantly different from processes such an injection molding. Moreover, the process of the present invention uses a pressing unit/die cavity shaping step that is separate from the heating process which makes the process significantly different from known shaping process that apply heat and shape simultaneously.

The process also reaps advantages by departing from conventional processes. In particular, the use of extrusion following by heating and then subsequent shaping

provides a streamlined process that can make parts at a rate useful for industry and can reduce overall processing costs. Moreover, the heating followed by shaping with the pressing unit/die cavity allows the pressing unit/die cavity to maintain a lower temperature, which, in turn can speed the solidification of the solid state feature. These advantages become even more poignant for forming more complex solid state features such as those claimed in claim 7 since traditional thought suggested that such features were more suitably produced, for example, by injection molding.

Applicants request that these advantages be considered in evaluating the claims of the present application.

By amending the application, the Applicants do not concede that the patent coverage available to them would not extend as far as the original claim. Rather, Applicants intend to file a continuation application to pursue the breadth of the claims as filed. Applicants believe that the Examiner has not made a sufficient showing of inherency of the teachings of the asserted prior art, especially given the lack of teachings in the cited references of the properties that Applicants have recited in their claims.

Further, by the present amendment, it does not follow that the amended claims have become so perfect in their description that no one could devise an equivalent. After amendment, as before, limitations in the ability to describe the present invention in language in the patent claims naturally prevent the Applicants from capturing every nuance of the invention or describing with complete precision the range of its novelty or every possible equivalent. See, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 62 USPQ2d 1705 (2002). Accordingly, the foregoing amendments are made specifically in the interest of expediting prosecution and there is no intention of surrendering any range of equivalents to which Applicants would otherwise be entitled.

CONCLUSIONS

In view of Applicants' amendments and remarks, the Examiner's rejections are believed to be rendered moot. Accordingly, Applicants submit that the present application is in condition for allowance and requests that the Examiner pass the case to issue at the earliest convenience. Should the Examiner have any question or wish to further discuss this application, Applicant requests that the Examiner contact the undersigned at (248) 292-2920.

If for some reason Applicant has not requested a sufficient extension and/or have not paid a sufficient fee for this response and/or for the extension necessary to prevent the abandonment of this application, please consider this as a request for an extension for the required time period and/or authorization to charge our Deposit Account No. 50-1097 for any fee which may be due.

Respectfully submitted,

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